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ESSAY ON HEALTH;

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BY

JUSTIN HAYES, M. D.,

RESIDENT PHYSICIAN TO

Medical and Electrical Institute,

CHICAGO



CHICAGO:

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INDEX.

	PAGE.
Artificial Stimulants, - - - - -	14
Change of Climate, - - - - -	21
Function of Digestion, - - - - -	43
Food—Quantity and Quality, - - - - -	35
Four Telegraphic Stations, - - - - -	6
Mental Depression, - - - - -	10
Miss Blank's Programme. - - - - -	55
Medical and Electrical Institute, - - - - -	81
Mind, and its Relation to the Bodily Organism, -	49
Mistaken Happiness, - - - - -	18
Nostalgia, or Home-Sickness, - - - - -	12
Notices of the Press, - - - - -	82
Overworked Students, - - - - -	59
Power of Habit, - - - - -	64
Sleep, - - - - -	65
The Physician and the People, - - - - -	72
Vital Force, - - - - -	3
Waste and Repair, - - - - -	28

ESSAY ON HEALTH;

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HEALTH.

CHAPTER I.

VITAL FORCE.

ONE of the greatest gifts to a mortal being is a sound mind in a sound body. It is lamentable that the few through life maintain it, while the masses most wantonly or ignorantly squander this noble inheritance.

The Divine Being does all things with the least possible expenditure of force. His laws are easy to be understood, if the search is to the Divine Economy. They are immutable, and the violator's plea of ignorance does not save him from suffering the penalty. Every sane person knows that fire will burn, and the destruction is greater or less, according to the exposure; and that a limb once amputated never grows out again. These are simple

laws, comprehended by all. There are higher laws that have to do with and govern the physical organization, which but few ever attain to; but the great majority of the laws of life are easy and accessible to all.

The sum of the entire apparatus of human life is but a due balance of forces. From their familiar use, it might be inferred that Physical Force, Nerve Force, and Vital Force could easily be defined. Great efforts among the wise and talented have been made to define the latter, and their failure has been as signal as the inventors of perpetual motion. That this wonderful force has an intimate relation with Heat, Electricity, Chemical affinity, and other agencies of the inorganic world, is clearly known. Alexander Von Humboldt defined Vital Force to be the unknown cause which prevents the elements from following their original affinities. This definition is not satisfactory, yet it may be profitable as one of the land-marks in a cursory view of some of the important points in the bodily organization. It is not necessary to have as minute an anatomical and physiological knowledge of the human system as the scientific physician,

to make good use of the means found in the wholesome rules of hygiene. But a certain degree of knowledge must be possessed, or blunders will be constantly occurring most deleterious to life and health. The great success in preserving and sustaining good health, is in the just adaptation of appropriate means to the individual case. For lack of this knowledge, great masses of the people perish. Mr. Advisewell, suffering with mental depression and overwork, takes a change of air, visits Europe, and returns in one year in good health. Messrs. Brown and Smith are at once placed on ship-board. Mr. Brown being in the last stage of consumption, is buried at sea. Mr. Smith's cancer of the stomach proves fatal the day after his arrival in London.

Not far back in the vista of time can light be found upon the nervous system. The phenomena of life transacted upon this wonderful theatre, has in a great measure eluded the grasp of the physiologist. During the last decade of years much has been done to furnish a clue to the key that unlocks this wonderful instrument—the great telegraph

line between mind and matter. Upon this line there are, if you please, four telegraphic stations, called the nervous centres. They consist, technically speaking, of the cerebrum and cerebellum, the medulla oblongata and the medulla spinalis. And from these centres nerves are connected with every portion of the organic system. There are but three kinds of telegrams ever transmitted over this line, viz.: sensation, thought, and motion. But their variations are innumerable. It is pretty clearly demonstrated that Electricity is the force that transmits all emotions in the animal frame, as by it all nervous action is exerted, from the complacent smile upon the infant's cheek, to the powerful mental emotion that shocks and exhausts the nervous battery of the strong man beyond reaction, and lets death reign king over its victim without a moment's warning. To know what the true enjoyment of life is, labor must alternate with repose; avoiding tedium on the one hand, and rapid and violent changes on the other; ever seeking to obtain the due balance of forces in the organism.

A knowledge of the function of Digestion

is most important to the well-being of man, that he may avoid, on the one hand, deleterious aliments, and choose on the other, that which will prove the most beneficial to the building up and maintenance of the whole organism. There are many organs immediately connected with the function of digestion; and in case any of them should have their normal action interfered with, there results a greater or less disturbance in all the rest; and, in fact, the whole body sympathises with the injured organ in proportion to the injury.

All the changes which food undergoes during the process of digestion and assimilation is not clearly known; but that it sustains life and makes hair, nail, bone, and tissue, is evident to all. Many theories have been taught, setting forth the best diet for man, and as many on the time for eating; also quantity and quality of food, used with and without drink. A favored few of the writers lived long enough to learn that it was not wisdom to take ice to the Frigid Zone to liquify it. Although no universal law can be laid down for man, yet it is a

matter of much practical importance to form a correct average estimate ; climate, occupation, quantity, and quality of food have much to do in making the estimate. Man being by nature omnivorous, a mixed diet of animal and vegetable food is best fitted for his nature as a whole, being most in accordance with his organization ; and this fact ought to serve as a sufficient reply to all those who decry either animal or vegetable diet. The judgment of an individual in his own case, in a judicious selection of food and the amount required, is a far better guide than all the dogmatic teachings of rheumatic brains extant. But few should eat to satiety, unless they are free from a morbid craving appetite, and appropriate full time for mastication ; then the stomach responds readily, and no telegram of distress is sent from the function of digestion to the brain.

The nervous system bears such an intimate relation to digestion and assimilation, that it needs no other reason opposing the theory of an exact adjustment of food and labor to the individual case. Every person has in his own case ample proof of this fact. In youth

the anticipation of the party or social gathering lessens the quantity of food taken, and not unfrequently with nervous temperaments the previous meal is lost. Great anxiety in business also produces the same effect, and if continued long, proves most deleterious. When overwork causes the waste of the body to exceed the supply, prudence dictates a change in the daily avocation. Sudden and violent mental depression produces for the time almost, if not quite, the suspension of the function of digestion, destroying the equilibrium of all the organs and tissues of the body; the censorium is reached, the capillary forest seems to rise in consternation, the hand involuntarily presses the forehead, as though it would press back the nervo-electrical tension that threatens immediate destruction to the throne of vital force. This is death. One and all of the aids and material that contribute to keep the body in tranquility, and sustain the due balance of forces, should be recognized as a grand compact or unity, giving each its proper place and function.

CHAPTER II.

MENTAL DEPRESSION.

There are many points connected with the nervous system and function of digestion, that must be kept in mind, to appreciate fully the great importance of sustaining the due balance of forces, so conducive to health and happiness. The beautiful form and rounded muscle of the athlete, and the power of the strong man, do not come by continual fear, mental agitation, or despondency. Fear robs the body of the balance of forces, and always means "fail;" and "hope deferred" is her eldest sister.

Miss Blank, six months ago, was the pride and admiration of home and the social circle. Her mind was fraught with independence, magnanimity, and every womanly virtue; with hope elate, her carriage was noble—her step firm and elastic; in short, her health was perfect. The brief space of a few months shows clearly that she has been robbed of one of the ruling incentives of her life. The

beautiful equilibrium of forces is no longer in harmony in the organism. One sad mental emotion, consecutively nursed, has done a fearful work. Her step is no longer firm and steady ; her whole body is as easily agitated as the aspen leaf in the breeze ; the cadaverous, inexpressive face, save of "hope deferred," reigns regal lord where so recently the Great First Cause had commingled beauties untold. The prescriptions of physicians were unavailing in her case, save in coinciding with the malady, and hastening the fatal hour of death by inanition. Solicitous persuasions and kind admonitions of friends, were as fruitless, as the epithets and vituperations of the careless and indifferent were cruel. How one mental emotion, continually dwelt upon, proves so deleterious and fatal, is a question of no small consideration among physicians ; the people have a right to the investigation of the problem. When parents and friends, necessarily interested, scan their mental horizon with the true moral and physiological guide, they will find balm in Gilead. This reflex action of the nervous system hurtling on to the brain, with its dangerous freight,

robbing the function of digestion of its accustomed supply of nervo-electrical force, and opening the door of the inner heart, that a vampire may seek the life-blood of its victim, should be tranquilized.

Many of the cases of aberration of mind and mental depression might be avoided, by dint of prudence and forecast. There are three sources from which mental and bodily ailments proceed; namely: ignorance, imprudence and *willful folly*. The latter, if persisted in long, clearly shows that a man's fortunes are the fruits of his character; and the victim finds, at no distant day, that he is physically enervated and morally out of health.

Nostalgia, or homesickness, is prominent among the causes of depression of spirits and indigestion. This disease is not limited to childhood; but extends to the farthest extreme of human existence. The child separated from its pleasant home unwillingly, is moody and irritable, the function of digestion is disturbed, and appetite lost. The aged, whose minds ever revert to the scenes of early years, often feel a despondency not

easily removed by passing events, as they retrospect the far-off old homestead and other monuments of separated friends and associations. The soldier, whose patriotism moved him to volunteer his service for his country, bade adieu to home and all the endearments of domestic happiness with firmness and noble demeanor; with steady nerve and heroic valor, he periled life in many a battle. But the tedium of guarding a distant land brought ever fresh to his mind the endearments of home. He cherished the thought till it robbed him of health, manly dignity, and life. It is a significant fact, that the soldier from the country, and the mountaineer, are more liable to fall a prey to homesickness than the citizen.

“The intrepid Swiss who guards a foreign shore,
Condemned to climb his mountain cliffs no more,
If chance he hears the song so sweetly wild,
Which on those cliffs his infant hours beguiled,
Melts at the long lost scenes that round him rise,
And sinks a martyr to repentant sighs.”

In every avocation of life, it should be the interest of all to have a well established policy in physical education, that disease may be prevented, and life and happiness prolonged.

CHAPTER III.

ARTIFICIAL STIMULANTS.

The great victory of life is happiness. But who knows where happiness dwells? Mind has become the universal sovereign of the world; and man is acknowledged a free moral agent. Sacred History and Metaphysics teach that there is in man a moral law, a law of duty, which unconditionally commands the fulfillment of its behests. The world, filled with the useful and the beautiful, is for man, his use and delight. With reason and the history of the past, for his guide; and with a life so fraught with disappointments in attaining the much desired physical power and happiness, it is a subject that should be well investigated by every rational mind.

A man may come in possession of great wealth by the death of a friend; may contract bad habits, catch the ague, the cholera, or the plague; but cannot long possess a good bodily organization, virtue, and wisdom without toil.

It may be averred with some propriety, that there is in man, constitutionally, a desire for artificial stimuli. All nations, barbarous and civilized, have produced and consumed that narcotic stimulus which they supposed best adapted to their own physiological state. "Hence, Siberia has its fungus; Turkey, India and China their opium; Persia, India and Turkey, with all Africa, from Morocco to the Cape of Good Hope, and even the Indians of Brazil, have their hemp and hashish; India, China and the Eastern Archipelago, their betel-nut and betel-pepper; the Polynesian Islands, their daily ara; Peru and Bolivia their long used coca; New Grenada and the Himalayas, their red and common thorn-apple; Asia and America, and all the world, we may say, their tobacco." And spirituous liquors with varieties multitudinous.

Who, among the participants in habitual use of narcotic stimuli, so brave that, when he is about to pass the charmed boundary of human existence, can look up to heaven and say, "Lord, I have not buried the talent that thou gavest me." The athlete, being prepared for extraordinary feats, and the pugil-

ist training himself for great strength of muscle, power of endurance, and steady nerve for his brutal work, do not excite their brains during the training, with spirituous liquors, or stultify their nervous systems with narcotics; their bill of fare for diet, and round of healthful exercise, is not to be found in the epicure's catalogue. It is a fact, attested by repeated example, that man can endure more hard labor, and exposure to extreme cold, in the Arctic regions, without the use of spirituous drinks than with them. Vessels stranded upon sandbars off our own shores, covered with ice, during extreme cold weather, have been unloaded by men fed upon milk porridge, as hot as the stomach could bear, who signally failed to accomplish the work by the use of spirituous drinks or hot coffee. Society is filled with manifold monuments of warning against the search after happiness in the habitual and free use of narcotics and spirituous drinks. To prevent the evil, kings have issued their bulls, penal statutes have been enacted, and the offender punished by torture, imprisonment, and even death. Coercive laws have been spurned with contempt, and

the *Risis Sardonicus* has rung in the ears of the minority, while, numerically, the persons using narcotic stimuli are increasing, as humanity sweeps on the cycles of time.

CHAPTER IV.

MISTAKEN HAPPINESS.

If a man would be guided by Reason more than by Imitation, in his search after happiness, the sad wrecks of humanity would be far less. The ante-chamber of vices and dissipation is ever decked with meretricious ornaments and subtle enchantments. It is no wonder, when the facts in the premises are all canvassed, that the young man of fortune, classical education, good moral character, and a normal physical organization, takes his first lesson unsuspecting, joyous, and in full anticipation that he will be crowned with success in attaining happiness, the desired object of his life. He advances courageously in the degrees, till he hears roarings in his ears, and the exhausted nerves begin to 'tell' upon his bodily organization; and when he attempts to concentrate his mind upon business, finds his brain like a kaleidoscope. These symptoms, he fears, are ominous of

danger. Reason is put aside, and imitation still is the incentive; others are before him, with inviting mien and the sparkling chalice. The indulgence is continued, and ere long spectres are flitting through his room, with skeleton ribs and menacing dart, thicker than the flashing meteors during a meteoric rain. Narcotics are administered, and the senses are for a moment overcome, and held in paralytic sleep; he is awakened by an erotic or sensual dream, a draft which the constitution is not able to honor. Dementia is written upon the forehead, and the bodily organization is bankrupt forever.

If the reader is on this course to happiness, and is not satisfied that dissipation is the road to "death in life," he is referred to the last prayer and epitaph of S. T. Coleridge, written by his own hand. Let him lend a listening ear to the voice of reason, and not be carried on the tide of popular vices and dissipation till he reaches the maelstrom of undying shame and remorse.

Persons free from disease have a standard of health by which they compare themselves. But happiness and health are not always

associated, in their greatest perfection, in the same human organism. Happiness is no fortuitous gift to a portion of mankind, but is a free offering to all humanity, and is enjoyed, more or less, according to the reasonable pursuit and capacity of the individual for enjoyment. Hope is the great incentive in this life, and reaches from the darkness of this world into the brightness of the Life Beyond.

“ Whatever that is cheerful or serene
Supports the mind, supports the body, too ;
Hence, the most vital *movement* mortals feel,
Is HOPE—the balm and life-blood of the soul ;
It pleases—and it lasts.”

Poets may sing, Physiologists teach, Physicians prescribe wholesome rules and means ; but man will suffer the penalty of violation as long as he continues in ignorance, and persists in WILLFUL FOLLY, ignoring the knowledge of his organization, and treating with deaf and blind contempt the Divine Power of his creation.

CHAPTER V.

CHANGE OF CLIMATE.

Every year has its marked follies, and distinguished votaries. Man has ever been struggling with his own weakness. A contest is continually going on for the ascendancy, between reason and the force of imitation; and the masses are more often carried by the latter, even in that which is of the most vital importance to themselves. Errors are commensurate with man's first lessons; and, like comets, run in one eternal cycle. The healing art was never more replete with good and established means than now. But charlatans and quacks have a strong hold on the credulity of the masses; and when remedies and means are stripped of their secresies, and fairly placed before the people, they lose power for want of the mysterious embellishment.

Reasoning minds are well establishing the great importance of preventing disease, and restoring the convalescent, by change of air,

and a proper regimen. The marked beneficial results of a change of air are seen, even in a few weeks, by removal to a locality not varying much in temperature from the home residence; but the change of scenery, leisure from business, and relief from the tedium of the daily routine, in these cases, should have a due estimate in the recuperation.

The mild type of the numerous family of aguish disorders found in the malarial regions, soon disappear when the sufferer changes to a locality where the air is not charged with malaria. It is not prudent to trust exclusively to change of air in intermittent fever the disease has been produced by a specific cause, and generally requires a specific remedy for its complete cure. Patients suffering with the severer forms of malarial diseases, need not look for a perfect re-establishment of health, without a complete change of residence for a considerable time.

It is all important to the invalid that the change of air should not be recommended in an indiscriminate manner, without regard to his constitution, the nature of his disease, and the place where he is sent. Let the air of

the locality be appropriate for the case, and the hopes of the invalid and friends will not so often be disappointed.

The feeble and irritable patient will not bear a keen and exciting air, whatever may be his disease; whereas, the invalid possessing a constitution of an opposite character, will feel increased vigor while breathing such an atmosphere. The following example will hold as good in dyspepsia, rheumatism, gout, and all diseases amenable to change of air, as in bronchial affection: Mr. A is a feeble, sensitive, irritable person, and has bronchitis, with little expectoration, and a disproportionate degree of irritation of the bronchial tubes to the real organic lesion, and the cough is excited by the slightest causes. He takes a change of air, and selects a locality of dry and sharp atmosphere. The cough is increased at once, and soon alarming pulmonary symptoms appear. Mr. B, suffering with the same disease, quite as far advanced, but with a more languid habit, and less sensibility of the mucous membrane, and more copious expectoration, is relieved at once, and in a few months is free from his bronchial distress

If Mr. A had been rightly directed to a mild and even humid air, his recovery might have been as perfect as Mr. B's.

The great central idea is an appropriate remedy for the individual case, in medicine, hygiene, or change of air. When physicians cease to prescribe for the name of the disease, and take into due consideration the nature of the malady and the constitution of the patient, and the invalid is moved by reason and good common sense, and not by the force of imitation, the exigency of the case will be more properly met, and the number of sufferers and mourners lessened.

In recommending a change of air, the season of the year should always be considered. The more sheltered parts of the interior form the most eligible residences for all classes of invalids, during spring and early part of summer. Midsummer and autumn, the coasts of the northern lakes and the seaside. General rules, only, can be offered, to which there are many exceptions. There are peculiarities of constitution which can only be learned from information communicated by the patient.

Some persons never feel well by the sea-

side, in any situation, or at any season; while others will improve during a residence on the coast, under the most unfavorable circumstances of situation and season.

There are but few persons who require change of air, either with the view of preventing disease or removing its effects, that will not derive greater benefit from repeated changes than from a long continued residence in any one situation, however judiciously selected. And no change, or succession of changes of air, will produce any great permanent benefit, unless strict attention be paid to regimen, more especially as regards diet.

The United States (to which the suggestions upon the change of air in this article are confined) has as great a variety of climate as any country in the world. Her mineral springs are legion, and many of them are deservedly popular resorts for the invalid. Away in the wilds of New Mexico and Arkansas, comforts are found for the feeble patient, while he enjoys the remedial power of the water from the Hot Springs. And from the noted White Sulphur Springs in Vir-

ginia, and the popular Saratoga's, to the pure soft water gushing from the rock, far up the mountain side, in New England, can be found all the necessaries of life for an epicure or a valetudinarian, with an efficient corps of physicians and attendants, a change of air, water, and exercise, for the corporeal man, and amusements for the MIND, which are as necessary for man as sunlight.

And "more, if not least," Water Cures, Hygienic Retreats, etc., with which is connected a significant fact, that the majority of the guests are cured of their maladies, or improved in their general health. This fact is before the people, and the physicians in general practice would save more of their patrons from medical infidelity by obtaining a knowledge of these institutions, and directing those that desire a change of treatment to the best, rather than branding them all with "humbug!"

The importance of change of air cannot be too strongly impressed upon the minds of physicians and the people, especially upon parents who have children pent up in the poisonous air of the crowded city. Send

them to the country during the summer months, if it be but for a few weeks. Let them romp in the fields and groves, or work in the soil. The Great First Cause has freely and bountifully given to man the earth, with all of the useful and the beautiful, and he should wisely and reasonably acknowledge the gift, by keeping his "house in order" till the last earthly mutation.

CHAPTER VI.

WASTE AND REPAIR.

How to keep the due balance between waste and repair in the human organism, is a question of no small magnitude. If physical or mental labor, and the normal functional waste, were all the draft made upon the supply of the body, it would be easy to make rules which the masses could follow with impunity, and preserve a normal well-being. But as there are so many causes that disturb the tranquillity of the organism, great caution should be taken, even in making suggestions for the many. The majority of writers on dietetics have been weighed in the balance and found wanting, many of them being epicures, that continued to live after their good constitutions were destroyed, by adopting a strict regimen of diet appropriate for their individual cases, which was their experience, written in a book against the world, and fit only for the digestion of fools with one idea.

If on any subject the golden mean is of importance, its paramount weight should be duly and reasonably considered, in a subject of so vital importance as what shall man eat that will sustain life and give the greatest amount of healthful action to his organism. The causes that aid or disturb healthful digestion are intimately connected with the quantity and quality of food, time of eating, mental and physical labor, and atmospheric changes. The Creator has given to the lower animals instinct for their guide, and mind for man, which is the great distinguishing characteristic by which he inquires, improves, records his progress, and looks to the life beyond. This reasoning mind is a gift which man's imperfect nature cannot bear without the tribute of occasional inconvenience, from which the less privileged animals are exempt. The inordinate mental exertion and vehement impression of which the mind is susceptible, tends to exhaust the nervous energies, destroying the nervo-electrical equilibrium, robbing the physical part of the system of much of its power, and if the mind be taxed to over-exertion long, the bodily organs cease

to perform their functions properly. The function of digestion, though supplied with the best and richest viands earth affords, under these circumstances is almost powerless in the assimilative process. This subject is not well understood, and too often unheeded by those who have the knowledge.

Every one knows how easy the blush is brought to the cheek of the susceptible, or with what force the blood mounts to the face and engorges the eye of the athlete when his honor is impugned. These are but meteors in man's organic system, yet their measurement must be taken in the estimate of causes that disturb the action of the digestive apparatus. Long continued mental depression and anxiety of mind produces effects which are deeper and not as immediately visible. Still as the lethal of death, the vampire of disease is fastened on a vital organ, and death is fast approaching by structural disease of the lungs or heart. The victim now has a realizing sense of his danger and is astonished that he was not alarmed before, when loss of appetite and deficient nutrition

had been demanding the fulfillment of their behests for months previous.

All cases of heavy mental depression and anxiety do not prove fatal. Who has not seen the happy change when relief came? Perhaps it was a mother, after a long and painful watching over a dear child, suffering with malignant disease, which had carried it down to the charmed boundary of human existence, and a grain's weight threw the balance of power in mortality's favor, and it was restored to health. Or perhaps a man of wealth struggling to sustain his honor during a great financial crisis; after many restless nights and days of feverish anxiety, that set the brain on fire, prostrating his bodily organism like a Libyan Sirocco, relief comes, he finds his "margin" all right, and feverish anxiety gone. In each example the different organs of the body begin to resume their usual normal action, the happy effects of a tranquil state of mind, the improved appetite, the appropriate assimilation, the increased nutrition, the good sleep, and the train of cheerfulness that show the bodily organs are in healthful action, and that the

nervous system will not be overtaxed without making a draft on the function of digestion paramount to its weight and continuance. These are but few of the *emotional* causes which act upon the apparatus of human life; they are more under the control of man than atmospheric changes, which bring in their invisible embrace health or pestilential poison. It is averred with confidence that could the ear of the citizen and countryman be reached, and the advice heeded, the next generation might increase its length of life a decade of years.

Statistics show that the farmer's life is not as long as the citizen's, and that insane asylums are furnished with the greater number from the country. This seems impossible, at first sight, but figures substantiate the fact. It is said that he is a benefactor of his race who makes two spears of grass grow where there was but one; and truly he is a philanthropist who shall point out one cause that shortens life, which was not known before.

The beauties of the rural district have been rehearsed in prose, sung in poetry, and paint-

ed by the artist, yet its real usefulness and beauty is beyond the tongue or the pencil. The sunlight, the salubrious winds, the first ripe fruit, the flocks and herds on the hills and in the valleys, are the farmer's enjoyment and subsistence, which would seem to sustain the bodily organization against great odds. Where lies the bane? Take a stereoscopic view, by the light of science, of the farm house and its immediate surroundings at night, and let good common sense draw the inference. The location for the house was well selected; the hog-pen is five rods west of the house; the cow-yard four rods east; the barn stands near by, with its mouldering straw stacks; a few rods to the south is the vegetable garden, which was well "manured" in the spring, with animal and vegetable decay, now filled with a luxuriant growth of vegetables; at the north side, under the window of the bedroom, is a surface drain that receives the slops from the kitchen; the upright part of the house has a cellar under it, and in winter is filled with vegetables and fruits, now has three barrels of soft soap, one tub of rancid soap grease, a few old de-

caying vegetables, and scraps of rusty pork. The "ground floor" is occupied by the family, four children sleeping in a room eight by sixteen, the father and mother occupy one still smaller, with two children in a "trundle bed," it is ventilated by one window, and the door which opens into the kitchen. Let the wind blow from what direction it may, it comes to the sleeping apartments surcharged with noxious gases that arise from decaying matter from without, or percolating the walls and floors of the house from the cellar, furnishing a medium for ozone and inordinate waves of electricity, either positive or negative, robbing the body of its normal electricity, acting magnetically upon the protoxide of iron in the blood, destroying life slowly, by weakening the function of digestion, and the nervous system, or immediately, by cholera infantum, congestive fever, black vomit, and black death.

CHAPTER VII.

FOOD—QUANTITY AND QUALITY.

Man is left no longer to fortuitous conjecture, and endless experiments, in the kind of food most appropriate for his consumption. The judicious administration of it, should be directed upon the principles, derived from the science of physiology, and chemistry. It may reasonably be asked, how are the masses that know, comparatively, but little about the sciences, to be guided? Let every community support a sufficient corps of physicians, and let the prevention of disease, be the great desideratum of their practice; by a judicious and timely administration of a proper regimen in diet, exercise, or rest, as the exigency of the case may demand. To prevent disease is greater than to cure.

The absolute quantity and quality of food required for the maintenance of the human body in health, varies much with age, sex, constitution, habits of the individual, place

of residence, and circumstances in which he may be placed; so that the ordinary observer requires no labored argument to be convinced of the truth of the assertion. But the difference in the amount of food different persons may use in a given time, is not without wonder to the most scientific observer. It is stated by good authority, that a man by the name of Cornaro, subsisted upon 12 ounces of vegetable matter, with 14 ounces of light wine per day, for a period of 58 years. The half-breed voyagers of Canada, and the wandering Cossacks of Siberia, habitually devour from 12 to 20 lbs of meat per day. And there is a case on record of a Hindoo who ate a whole sheep at a time; this is probably the greatest case of gluttony on record.

Man can endure continued hard physical labor in the United States, and be sustained pretty well upon 40 ounces of solid nutriment per day; but it must be a mixed diet, of animal and vegetable food or symptoms of disease, after a time, will appear, showing the want of proper aliment to sustain the bodily organization. It would not be necessary to

insist upon the importance of a mixed diet, if the composition of the human body be taken into consideration, as *it* is devoid of the power to create elementary substances. Therefore, it would be but reasonable to believe that the system must be supplied with food containing all the elements which enters into its composition. If the main-spring of a watch be broken, a man would be considered insane, or a fool, to have it replaced with putty.

The difference of opinion, that exists among writers on food, and the digestive process, would be narrowed down to small proportions, if the horizon of their survey was more comprehensive, taking in the races of man at present inhabiting the earth, considering each in his own climate, and mode of life. The Creator has conferred upon man an Adaptiveness, to qualify him for subsisting on those articles of diet, whether animal or vegetable, which are most readily obtained in different parts of the globe, thus removing obstacles which a necessary restriction to any one kind of food, that had it been otherwise, would have opposed an universal diffusion of mankind

upon the earth. This adaptiveness of man's nature is exemplified in his easy use of narcotic stimuli; he may, by the habitual use of arsenic for a few months, take with impunity at one dose, an amount that would kill a number of persons unaccustomed to its use. When the adaptiveness of man's organization is fairly considered, it furnishes a clue to an argument that will forestall the dogmatic teachings of persons that oppose a mixed diet of animal and vegetable food in the temperate climate. Persons living in the extremes of hot and cold climates, will take care of themselves, from the necessity of the case. The Hindoo may subsist upon rice, the West India negro fatten upon sugar, those of Senegal upon gum, while the Esquimaux gluts himself upon the blubber of the seal.

The human organism is now pretty thoroughly understood, every bone, muscle, nerve, blood-vessel, tissue, and structure demonstrated, every function of the body assigned its proper place, and duty, in the great work of sustaining human life; even the electrical polarities of the minute molecules of this wonderful human structure, have been ascer-

tained. The solids and fluids have been chemically analyzed, and their component parts found and named; so has it been with every kind of food and drink, from the peppered beef-steak, and cognac enjoyed by the epicure, to the bland arrow-root, dealt sparingly to the convalescent.

What has been gained by the labored research of the chemist, and physiologist, for supporting the normal balance of the human organism, and fortifying it against premature waste and decay? Much in every way. The educated physician, of good judgment, keen perception, and an ability to meet exigencies of cases, by a timely and proper use of professed means has in these sciences, an unmeasured power.

A good machine is soon out of order, if run by a workman ignorant of its construction, but when the science, the machine, and the operator, are in harmony, the cogs mesh mathematically, and the bearings glide smoothly, without undue waste. An ignorant person by a knowledge of the fact, or hearsay, may save the life of an individual suffering with sea-scurvey, by directing the

use of onions and sauer-kraut, but he does not know what chemical change was needed in the condition of the fluids to free the system of its malady. But by the light of chemistry an inordinate amount of alkali is found acting upon, and destroying the animal tissue which is readily neutralized by vegetable acids.

One kind of food does not yield a supply of nutriment for every part of the human organism. Tapioca, sago, potato-starch, sugar and butter furnish elements of respiration, and if used in greater quantities than is necessary for combustion in the lungs, the surplus goes to increase the fat of the body, but never furnishes the necessary ingredients or the growth of bone, cartilage, ligaments, muscle, membrane, or cellular tissue. The carbon and hydrogen of butter and the carbon of the sugar of milk, do not make blood. The young child receives the constituents of its blood, from the casein of milk. Nitrogenized food makes and supplies the bone and solid textures of the body. If the bones in the organism need to be stronger and firmer, make free use of the kind of ali-

ment that contains an appropriate amount of the phosphate of lime, and in due time they will become solidified. So may every component part of the body be supplied with the proper element, from the nail upon the finger, to the red corpuscle of blood, that sends its crimson index of life to the cheek. These facts are trifles in the ears of the masses, yet they are none the less valuable—learned, and observed, much suffering and misery would be prevented, and life prolonged.

The winds, over which man has no control, may hold in their embrace an epidemic, and pestilence slay its thousands in a day. But there are endemics which man can govern or prevent; the responsibility rests heavily upon the statesmen, magistrates, health officers, naval and military officers, physicians and surgeons; and upon this knowledge, and efficiency, depends the life of a considerable portion of the community, especially the inhabitants of cities, the inmates of public institutions, asylums, hospitals, prisons and armies. The scurvy has been known to prevail fearfully and mortally in hospitals, and houses of correction, in consequence of scanty

and inappropriate food, which permanently disappeared upon the administration of a sufficient quantity, and quality of aliment.

These facts are echoed from the city to the country, and the monuments that whiten the city of the dead, would be more truthful, in the majority of cases, if the epitaphs read, Came to a premature death, by willful or ignorant violation of the laws that govern human life.

J. J. 1884

CHAPTER VIII.

FUNCTION OF DIGESTION.

It is a simple operation to eat, but to eat judiciously, and understandingly, is too often neglected.

There is no lack of talk, or systematic theorizing upon food and the digestive process, and after all that, a greater and more universal disobedience to the law that governs the function of digestion, does not exist than improper mastication of food, and insalivation. From what has been said, a few thoughts at this time, on the destination of food, and some of the changes wrought during the process of digestion and assimilation in the human organism, may be opportune.

The infant draws from the maternal bosom its food, which possesses all the essential constituents for the repair of the bodily organism, and increasing the growth, making hair, nails, teeth, bone, and tissue. In due time, as the child advances in age, the system

demands a more substantial nutriment. The undeveloped teeth press their way through the tender gums, and stand crowned with enamel, as sentinels well panoplied with power to guard the passage through which the life-sustaining food must pass. Before this mutation, the child received its food, guided by instinct, but now, as the system demands the solid, and more substantial aliment, imitation and reason take its place. When the teeth are fully developed they exhibit a formidable power for mastication, and argue well for the trituration of food, and it is certain that the health of an individual depends much upon their sound condition, as well as upon their proper use. As soon as food is taken into the mouth, the salivary glands send forth fluid to moisten and assist in reducing it to a proper condition for the stomach.

The promoting of the mechanical reduction of food during the act of mastication, is not the only important action of the saliva; it has a chemical action on the farinaceous elements of food, and is an auxiliary to the gastric juice of the stomach. The complete

disintegration of alimentary matter is of great consequence, and if it is imperfectly effected, the subsequent processes are liable to be deranged. There is not a more frequent source of Dyspepsia than imperfect mastication, and it is of but little consequence, whether the food is too hastily swallowed, or poorly masticated for the want of teeth, the result is the same to the stomach. There can be but one excuse rendered for the imperfect reduction of food, viz: toothlessness with extreme poverty. If the teeth are decayed, they should be filled, or removed, as the case may demand, and their places supplied with artificial ones; the fillings should be of the same kind of metal, and if partial, or whole sets are placed, let the plates also be of the same material. By observing this rule, there will be no galvanic currents produced in the mouth; but if different metals, of opposing chemical action, be used, there will be galvanic currents acting on the salivary fluid, and disturbing the normal action of the pneumogastric nerve, causing a derangement in the function of digestion, let the food be masticated never so well.

The food is carried to the stomach by the muscular action of the œsophagus: the process in the œsophagus is automatic, and does not depend on volition, or the will. The food enters the stomach through the cardiac orifice in successive waves, and is at once subjected to a peristaltic movement, which thoroughly intermingles it with the gastric fluid. The alimentary substance is usually carried from the large curvature of the stomach, to the small or pyloric end, and back again, completing its revolution in from one to three minutes. In addition to the peristaltic movements of the stomach, it is constantly agitated by the act of breathing; there are many causes that influence its motions, so that no precise or very accurate estimate of its action can be made.

If the general system is in good condition, and the food taken at the meal, proper, as to quantity, quality, and temperature, the churning motion of the stomach is at once set up, and continues until it is thoroughly prepared to pass the pyloric orifice, unless checked by some sudden draft made upon the nervous system by an injury or violent

mental emotion. It is well known that the system will not bear up under an injury, nearly so well after a full meal, as it does after the assimilative process is fully set up. When the Chyme, or product of the gastric digestion, reaches the Duodenum, it is subject to the action of the bile, pancreatic fluid, and the secretion from the glandulæ of the walls of the intestine, which serve an important purpose in this stage of the digestive process. The injestive matter, which has now undergone a very important change within this portion of the canal, is gradually propelled onward by the peristaltic contractions of its walls, and as it reaches the small intestines, the nutritious portion is taken up by the blood-vessels and absorbents; the residue is carried into the large intestines, and assumes the character of excrementitious matter.

These are some of the important series of operations, by which the nutritive materials are prepared for further action, beyond the function of *Digestion*; the nutritive material is taken up by the blood-vessels, and the absorbent vessels; that which is taken up by the blood-vessels, is carried through the liver,

and there receives an important change; that which is taken up by the absorbents, or the vital endowment of *cells*, is yielded up by the Lacteals, and receives the name of Chyle, and passes through a long and tortuous system of absorbent vessels and glands, and receives a decided alteration in its properties, and as it reaches the Thoracic duct, approaches quite near to blood in its general character, which indicates that the process of organization, and vitalization, has commenced. The chyle, thus modified, is conveyed into the sanguiferous system of vessels, and flows directly to the heart, and passes with the mass of blood, to receive in the lungs, the crowning act of vitalization, with its ensign of red it returns to the heart, the center of the circulatory system, and is conveyed by the arteries to every portion of the body, endowed with vitalized properties, sufficient to meet the exigencies of waste and repair of this wonderfully and fearfully made human organism.

CHAPTER IX.

MIND AND ITS RELATION TO THE BODILY ORGANISM.

Some of the more important changes that food undergoes, during the process of digestion, absorption, and assimilation, have been placed before the reader. Food alone will not sustain life; there are many things necessary and inseparable in maintaining life, in the complicate human organism. One organ or many, may be lost, and life not materially shortened; but if the individual be deprived of water a few days, his life is in great peril, and if deprived of air a few moments, death takes place. These are facts within the knowledge of every rational human being.

But that which steals slowly and insidiously upon the citadel of life, is tolerated and even nursed with a morbid infatuation of present gratification, when but a mere flash of reason declares its toleration premature decay and death. Society in its present

artificial and æsthetic state, should let reason have its full sway in the judicious fullfilment of the law that governs the human organism, as in etiquette and finance.

This wonderful unit, man, has a mind, and its finite existence depends upon the health and life of the bodily organism. Why should not that which is of so much value have its place in the front rank of judicious and reasonable acts? The past is not a blank decade or century of monumental failures, as certain modern progressionists would have it. Plato and Aristotle declared the human body to be the instrument of the mind.

“What am I, whence produced, and for what end?

Whence drew I being, to what period tend?

Am I th’ abandon’d orphan of blind chance,

Dropp’d by wild atoms in disordered dance?

Or, from an endless chain of causes wrought,

And of unthinking substance, born with thought.

Am I but what I seem, mere flesh and blood,

A branching channel with a mazy flood?

The purple stream that through my vessels glides,

Dull and unconscious flows, like common tides,

The pipes through which the circling juices stray,

Are not that thinking I, no more than they;

This frame, compacted with transcendent skill,

Of moving joints, obedient to my will,

Nursed from the fruitful glebe, like yonder tree,

Waxes and wastes,—I call it mine, not me.

New matter still the mould'ring mass sustains ;
The mansion chang'd, the tenant still remains ;
And, from the fleeting stream, repair'd by food,
Distinct, as is the swimmer from the flood." *

The mind sustains an important part in the healthful action of every organ and function of the body. Yet some of the functions do not seem to be under the direct control of the mind; being sustained by involuntary action, and continuing their accustomed round of duties during sleep as well as in wakefulness. In case of death by grief, anger or fright, no one hesitates for a moment to decide that the whole organism was destroyed by the powerful mental emotion.

When all the organs and functions of the body are in healthful harmonious action, and the undue mental emotion is not soon after partaking of a hearty meal, the system sustains itself with an ample reaction, unless the mind is thrown into a continuous despondency, destroying the normal action of the function of digestion and assimilation. But if an individual is suffering with general debility, the due balance of forces is not

* Arbuthnot.

easily kept, and every overt act causes distress in some part of the body; it may be the liver, and indicated by severe pain in that organ; if in the stomach, by cramp or spasms, and if in the nervous centers and heart, by palpitation and fainting.

There is a class of persons who are not suffering with what is called organic disease, but are fearfully feeble. The general rules that pertain to diet, exercise, rest, sleep or mental labor are not for them. The reading of an editorial in the morning paper, exhausts them for the day; an unexpected call from a friend throws them into a paroxysm of nervousness; an harsh unkind word, does not make them angry, but causes palpitation of the heart, chilliness and headache. The ordinary exercise or walk so grateful to most persons, that sends the blood hurtling to the extremities with life-sustaining vitality, is rank poison to them; the cheeks grow pale, and the extremities cold, from the time they leave the house until they return, and there is a feeling of oppression in the chest, in consequence of too great a pressure of blood upon the vital organs; the vitality being too

low. to send it back to the extremities. A trivial calamity in the morning, destroys the appetite for the day; if a meal has just been taken, the process of digestion is at once arrested, and the function of digestion disturbed to such an extent that the system is so deprived of its nutrition that the involuntary act of respiration is suspended during the first attempt to sleep, which rouses the person, and respiration is regained.

Even when the system has appropriated sufficient nutriment to maintain the due balance of forces during sleep, should an unwelcome thought flash across the mind as the senses are being locked in sleep, the nerves are agitated, the heart palpitates, and the system cannot be tranquilized for hours. No class of persons are more misjudged and abused by society, their friends and physicians. It does not matter whether they are found in the humble cottage of the poor, or the magnificent palace of the rich.

The dawn of a brighter day has come for this class of unfortunate sufferers. The scientific physician stands foremost in the van, with the herald of mercy, issued from

the lore of the Pathologist and Physiologist, by which he is enabled to send joy to the strong as well as to the weak; and drive empiricism to the shades of conjecture.

There are many things within the reach of the enervated and anæmic sufferer, if followed consecutively, that would tend to make life more pleasant and raise the standard of vitality higher. The All-Wise dispenser of good has given man the earth with its blessings, and left the responsibility of his life and happiness at his own disposal to a greater or less extent.

If an individual has by birth a proclivity to a feeble organization, the probabilities are that he will not rise to greater vigor of constitution than his parents, unless proper means are commenced quite early and persevered in, fortifying the system against the disease which his hereditary tendency favors. If persons who have no inborn tendency to disease should have the system brought low by sickness, and no vital organ in the body has received a structural lesion, the chances of perfect recovery are quite probable. But it is as necessary to observe the law that

governs the human organism, in the latter case as in the former; each has a standard of health, from which they take daily observations.

Miss Blank has general debility, her appetite precarious, does not rest well at night, feet and hands cold most of the time, is made sick by every trivial excitement, and what is overdoing with her, is but pleasure-able amusement with those in good health; has no inclination to take exercise in the open air, because she feels greatly fatigued by it and it produces some local distress, depriving her of entertaining her friends, of her accustomed reading, etc.

Let the following programme be followed one month: Rise at seven in the morning, breakfast at eight, eat the food that actual experience has proven to set well on the stomach and give the most strength; if the appetite is inordinate, let reason be the guide as to quantity taken, not satiety, leaving the table with a good relish, use no high-seasoned condiments, use moderately of warm drink, the temperature should not be above blood heat, pure Rio or Mocha coffee or black tea

are not objectional, if made weak. Rest one hour without book or consecutive thought, after which, walk in the open air with the feet well protected, and the person properly clothed to meet the exigency of the weather, continue the walk until wearied, but not until actually fatigued. After the exercise, lie down or take the easy chair, away from company, exclude all care or close consecutive thought as far as possible. Dine at one o'clock, observing the rules enjoined at breakfast, except using more food, and if warm drink is dispensed with, use cold water sparingly. After dinner take the lounge or easy chair, which ever you like best; at three o'clock ride, either in a carriage or on horseback. If the weather should be unpropitious and stormy, use the parlor-skates or the dumb-bells of the Light Gymnastics. Light reading and conversation may occupy the time until six o'clock, at which time take supper, using no animal food or sweetmeats; after supper while away the time as best you may until eight o'clock, at this time take exercise for the purpose of inviting the blood to the lower extremities; a very good exer-

cise is marching about the room, sometimes on tiptoe and some of the time stamping the feet. Retire at nine, but before retiring have an assistant take a soft linen napkin, wrung out of cold water, press it on the back of the neck, carrying it quickly the whole length of the spine, wipe dry with a warm soft flannel, after which, rub the back with the hand.

There is too large a class of persons in community, that are incapable of realizing the feeble condition of the invalid, whose blood is fearfully impoverished in consequence of deficient nutrition. They have not felt the yearning of inanition, in a physically depraved organism, struggling in the midst of death for life. They have no inclination to consider the laws of their organization. Their nerves are like the rigging to a ship, and perception so obtuse that they stand aside, to let their own image in the mirror pass. The feeble hands that were often extended for mercy and refused, press a lifeless heart, and the echo from the tomb of the injured, brings not a tear.

The time is near at hand when the people

will more earnestly enquire after their own bodily confirmation and the laws that govern them, morally and physically. Let the great lights of the medical profession look well to their duty to the people, ever letting their scope of knowledge exceed their prejudices; unlocking their reticence in the presence of the sick on all proper occasions, and teach them the great principles of hygiene and the importance of a well regulated regimen in daily life, as the great means of preventing disease, premature decay and death.

CHAPTER X.

OVER WORKED STUDENT.

Man was not made for incessant toil, physically or mentally. Far down in the vista of time, over-leaping centuries and antedating man, God made the diurnal cycle of day and night. And no vain ambition of man can abrogate the law, and turn day into night or night into day, or make continuous day. Yet as self-evident and impossible as this fact is to every rational mind, the imbecility is apparent in the efforts among the living. And wrecks are traceable in every generation of man, among the worthy and laudable pursuits, as well as in the nightly revels and feasts of Bacchus.

The incentives urged upon students at the high schools and colleges, to have their lessons bear the marks of the consuming of midnight oil, will do for the few, but not the many. It is probable, that not more than one in an hundred is able to endure the heavy night and day work, for the term required to

finish a classical education, without enervating their physical constitution. Many, stimulated with a laudable desire for distinction in their class, allow themselves less than the needed amount of repose, and at first feel it difficult to resist the demands of sleep. But soon outraged nature gives the alarm, that the brain is being overtaxed, and sleep, which was so hard to resist, becomes more difficult to obtain. The state of general restlessness and feverish excitement should be a sufficient warning; and they that heed these premonitory symptoms do well, and save themselves from the possible chance of living through an attack of inflammation of the brain, apoplexy, paralysis or insanity.

The student that retires from school, as soon as he feels his bodily health crippling under his long hours of study, and allows the system to regain its former vigor, is almost always capable of accomplishing more in the end. Should the convicts in the penitentiaries be required to work as many hours in the twenty-four, as the young and growing student in many of the public schools is tasked, it would be a financial loss to the

state, and the people would call it inhuman and barbarous.

There are far too many young men, who enter college with a religious dogma on the brain, so radical that the great scope of the classics fails to break the boundary of their infatuation. They ignore nature's immutable law that governs their physical organization, and their ails are attributed to the "providential doings of the Lord." They cram the mind in season and out of season, and expect, if they get the prescribed quantity of dead languages, to be efficient leaders of the flock or the people.

"Mistaken souls that dream of Heaven."

The emaciated body, the woe-begone countenance, the ghastly socket guarding nervous eyes, the pimpled nose saddled with spectacles, the lily-white hands supporting dyspeptic bowels are indices of sad neglect of obedience to the law of recuperation, which is found in rest and sleep. No high state of moral culture will guarantee to man the right to violate the physical law of his being. Prayer will not repair the inroad made upon the organism, from long privation of sleep,

no more than sunlight will quench thirst. Yet prayer is as essential to the holy life of a Christian, as breath is to the existence of an individual.

There are examples in every avocation of life, where the brain has been robbed of its proper repose, and the sad result marked by failing strength and aberration of mind. It is beyond doubt, that there is in the human organism, a periodical tendency to sleep. When persons are kept actively engaged for a considerable proportion of the twenty-four hours, a sense of fatigue is usually experienced, which indicates that the brain requires rest; and it is only under some very strong physical or moral stimulus, that mental energy can be sustained through the whole cycle. The amount of sleep required is varied much by temperament, bodily vigor and habit of the individual. It is said that Frederick the Great and John Hunter required only five hours of sleep out of the twenty-four; and that General Elliott, celebrated for his defences of Gibraltar, did not sleep more than four hours during the twenty-four. It will be remembered that these

examples are exceptions to the general rule. The briefest sleepers have usually been men of the greatest mental activity, with a hardy constitution.

Avocations or business, that do not have a great diversity of excitement, can be endured with impunity, longer than a variety, widely differing and requiring great intensity of thought. If the labor be mental, and in its accomplishment the physical is moderately exercised in the open air, a greater portion of the diurnal cycle may be used *consecutively* without making any material inroad upon the constitution. The influence habit exerts in predisposing to sleep, is more powerful than the masses are aware of. The man that has acquired the power of the will to withdraw the thoughts from exciting subjects, and bring the whole system into a tranquilized repose, has gained a signal victory over organs and functions that often prove unruly members, and hard to subjugate even in time of great necessity for the well-being of the whole organism. The celebrated pedestrian, Capt. Barclay, when accomplishing his extraordinary feat of walking one

thousand miles in as many successive hours, obtained at last such a mastery over himself, that he fell asleep the instant he lay down.

It is a wonderful power that *habit* exerts over man in all his conditions in life. Force of *habit* and *fixed attention* are made to guard the slumberer, and when fatigued and locked in sleep, come at the designated hour, and as with a guardian angel's impress, bid the sleeper awake from his semblance of death, and on to duty. The physician, after days of great anxiety and exhaustive labor with the sick, retires to rest; and in his first profound sleep, the cry of Fire! fails to produce even a sensation, but the first stroke of his night-bell arouses him.

Persons that are accustomed to rise at a particular hour wake regularly at that hour, whether they retire early or late. But what is more remarkable is that many individuals have the power of determining at the time of going to rest the hour at which they shall rise. With some, an effort to wake at an unusual hour would produce a nervousness that would be fatal to the tranquilized state of the brain and quiet repose.

CHAPTER XI.

SLEEP.

The National Government of the United States, presents to the American people, great inducements for physical and mental labor. There is no barrier to prevent man from amassing material wealth, or rising to distinction in the arts and sciences, if he be endowed with original ability. The intelligent laborer, whether in the galleries of art, or in the halls of science, in the field, in the mine, or on water, finds in none of the various avocations of life, an equal apportionment of labor and rest. This is left to man's free agency, and the masses make suicidal use of this—one of the greatest of gifts that God ever bestowed upon man for self-control.

While these wonderful resources are held out to the American people, as mighty incentives to action, there are other considerations that should be well weighed in the balance of calm, deliberate judgment, before jeopard-

dizing the present life and happiness, in the wild frenzy for wealth or honorary distinction. "*Will it pay?*" is the stereotyped and universal question that unlocks the ante-chamber of the future, and the answer comes:—"As a man thinketh so is he;" and the scheme or enterprise is undertaken at once, without considerate reflection.

A reasonable amount of labor is as necessary to the well-being of man's physical organization, and prolongation of life, as fuel is to sustain fire.

Men that are ambitious, and have a desire to labor, find, that to learn to labor, is easy; but to learn to wait, is the rub. To those who are far out upon the sea of adventure, and require the tranquilizing and recuperating power of repose and sleep, a few suggestions are made. A wail comes in every avocation in life, from the over-wrought, for sustaining rest, like the cry of a drowning crew, from a wrecked ship. If gold could purchase the sweet sleep of childhood, how freely it would be given. Activity brings the system into a condition for repose; and repose calls for activity. The amount of

sleep required by different individuals is very much influenced by temperament; thin, wiry persons, in whom the nervous temperament predominates, do not require nearly so much sleep, as heavy, passionless people, of the lymphatic temperament, who are never more than half awake, only on great and exciting occasions. Old persons require more sleep, in consequence of want of energy in the function of digestion and the nutritive operations. There are persons who toil mentally and physically, many hours during the twenty-four, with a constant feeling of agony; and the few hours allotted for rest are taken up in snatches of sleep and ugly dreams, when, if but a few hours more be taken for repose, sleep would be sweet and refreshing, and labor pleasurable.

If persons would get outside of their business, even once a year, and take a view of themselves, their habits and their avocation, it would be of more value to them, if considerately done, and the warning, where dangers lie, properly heeded, than all the narcotics and soporifics in America or Turkey. A strong man may raise his hand above

his head, and have sufficient force of the heart, despite the action of gravitation, to send the blood coursing to the extremities of the fingers, with but slight diminution of the veins, while a feeble person's heart could not send blood enough in a similar effort, to mark the passage, even of the veins. In many cases, unrest and wakefulness are due to a want of blood in the nervous centers, which can be greatly remedied by lying down frequently upon the back, with the head slightly raised and in a warm room. It is quite apparent that if the hand of a feeble person cannot receive blood when raised above the head, that the head cannot receive a due supply in long-continued efforts in an erect position. The blood presses heavily upon the vital organs of the chest, producing unrest, and if long-continued, causes irreparable organic disease. Let the strong person measure and use his strength, by his standard of health, and the feeble by his, and their work will be done in accordance to their proportionate ability; and their organism sustained with a due amount of sleep.

The morbid impression produced on some persons by a disappointment that pertains to the honor, the moral and domestic relations in life, causes a singular phenomena, in which the four nervous centers seem to take part. The sufferer has no desire for sleep, so long as he continues to nurse the morbid infatuation into which he has been drawn; he may sit gazing for hours at a bright light, without winking, or an inclination to sleep; occasionally the attention is withdrawn long enough to realize that a hurtling chill is sweeping up the spine, or an aura of the nervo-electric fluid flashing from the solar plexus of the great sympathetic, with a force that excites the abdominal muscles to a slight spasmodic contraction, somewhat analagous to the spasmodic action of the diaphragm and heaving of the chest, caused by grief; but not as violent in its action, its force being spent in a downward direction, upon the abdominal viscera. If the sufferer is not drawn away from this singular aberration of mind, obtaining quiet repose, he soon becomes a confirmed maniac, or dies by inanition. Let

no maudlin excuse be given by friends, for not rendering timely aid to this peculiar class of sufferers.

The position is assumed that the mind can both will and suspend its act, of will. It is apparent to all that the great office of the will, is to produce acts that will supply the wants of the mind or body, and that the mind has power or liberty to suspend volition from one subject and place it upon another. If this can be done (which no one doubts) has it not the power to a greater or less extent, to suspend action on all subjects? By willing, a condition can be produced favorable to sleep; many ordinary experiments are resorted to, such as counting, listening to the reading of a dull story, by a monotonous reader, etc., which will not here be examined, as they are well known, and fail, in the majority of cases, to produce the desired result. Persons who are harassed with wakefulness should, before retiring to rest, take some preparatory steps that a condition favorable to quiet repose may be secured.

First—That the room be properly ventilated, and secured against intrusion.

Second—That the feet are warm.

Third—That no bundle of news be admitted, for the over-wrought brain to digest.

Fourth—That all the various kinds of business of the day or year be left in their respective places.

Fifth—Let all wants demanding effort be neutralized by the knowledge that repose is required.

Sixth—Place the faculties of the mind in the most complete state of careless indifference to everything, without desiring or willing an act, ignoring the *immediate* object of every act of the will which would, if allowed, move some portion of the body, or influence mental activity.

It should not be expected that by one effort the quiet repose and sleep, that had been driven away by months or years of over work and excitement, could be fully regained in one night. Let one tithe of consecutive effort, that was made in excessive toil, be made in the right direction, and a signal victory will be won.

CHAPTER XII.

THE PHYSICIAN AND THE PEOPLE.

Amid all the laudable pursuits of life, no one receives a smaller amount of forecast and judgment than that of health. Present happiness is the great desire of all, and health is the great requisite for its consummation. He whose organs and functions are in healthful and harmonious action is not only capable of enjoying more happiness, but his organization is fortified with power to resist a greater amount of injury, than one suffering with functional or organic disease.

Persons in health do not accord to the physician his due relation to society. He is too often looked upon as a man that desires sickness, because his pecuniary support comes from the unfortunate sick. If a man is worthy of his hire, the physician should obtain for services rendered, value received. His mission is not as lucrative as the majority of avocations, and if it was not for a

consciousness of doing good and saving life, their number would diminish, instead of increase. There is a wrong existing in society, which not only impairs his scope of usefulness, but fosters disease and premature death. His exposures to the vicissitudes of weather and unhealthy localities at all times during the twenty-four hours, his irregular meals and dangers of contracting disease at the bed-side of those suffering with malignant maladies are no ordinary risks of health and life. In acquiring the honorary degree of the profession, life is periled upon the cadaver, and the experience with the dead is for knowledge that will mitigate the suffering and prolong the lives of the living. For all this, no demand will be made here, on society, for an extenuation of the physician's latitude of usefulness to humanity, but for the sake of the immediate and remote benefit accruing to the health and happiness of the people, there will be a demand. When a member of the family is dangerously ill the counsel of the physician is received and orders are obeyed with alacrity. They are aware that something must be done right

speedily or the family compact will be broken. The act of obedience is no mark of wisdom, for the foolish, rash and indolent have the absolute power to decide without even an examination of the merits or demerits of the case. The heathen in time of great calamities forsake their idols and call upon God. A great want coming suddenly and unexpectedly must be met by rash decision. The wise, the prudent, and the industrious are somewhat prepared to meet events with forecast and judgment, especially those that pertain to trade or their daily routine of business; but the event of sickness or accident which they know may come at any moment finds the majority with the foolish virgins.

A gentleman taking a drive in the country discovers a drove of cattle breaking into a wheat-field; he rides up to the farmer's residence and informs him that cattle are destroying his wheat. The servants are sent post-haste to the rescue, and the informant receives great praise for being a "clever gentleman." The next day the family physician is called to visit a child of the thankful

family, but before his arrival a congestive chill has accomplished its fatal work, and the innocent child is numbered with the dead. A mere glance at the surroundings of the house reveals to the Doctor, the cause of the death of the child, and feeling that the bereaved parents are in a condition to receive instruction and guard the remaining members of the family if possible against an attack of the pernicious disease, he kindly remarks that there is a local cause for malarial fevers, arising from the effluvia produced by the decay of animal and vegetable matter, and he suggests that the slops from the cheese-house, the surface drain half filled with debris and dirty water, for want of sufficient fall, the cow-yard, in which are herded fifty cows night and morning, the adjacent hog-yard, containing from seventy-five to one hundred hogs and the hot summer's sun are enough to produce even this which they have just witnessed. The Doctor's suggestions cause the trash that obstructed the drain to be "hoed out" and left upon the bank, and they also cause much grumbling, wishing that the doctor would mind his own business and

attend to the sick. The farmer by heeding the timely information of the gentleman and using appropriate means saved his wheat from destruction, and himself from pecuniary loss; in heeding the Doctor's suggestions he has the prevention of disease and possibly of death. The reader will have no trouble in drawing the inference.

It is necessary for the people to make the prevention of disease of more importance, if they expect to be guarded against sickness, and increase the length of life in the present and future generations. If life is worth its estimate, the steps for maintaining and preserving health should stand first before every other act or consideration. It is true there are many who are poor in this world's goods and have to toil for their daily bread, enduring fatigue and exposure that they know are deleterious to health, and shorten life, yet those who are in affluent circumstances are the greater violators of health duties. The restraint upon the appetite taxes the moral resolution of those who have an abundance, and he who judiciously controls it is in possession of a great virtue.

In the treatment of acute diseases, it requires the keenest perception and best judgment of the physician to determine the time to discontinue his medical treatment, and rely upon the recuperative power of the patient's constitution, supported by an appropriate diet. Here rests a great responsibility too often left to the discretion and capricious appetite of the patient, which is pampered and gratified by his friends even to a fatal relapse which the physician too often and most unreasonably has to bear. The first few days of the convalescence should be watched by the physician, to relieve local congestions, should any arise, and see that a proper quantity and quality of food is administered. This may seem quite unnecessary to many, but the sad sequel of disease in those that might have fully recovered, and the fatal relapse, are stubborn facts to surmount. Not long since a physician of eminence, residing in an Eastern city, was visiting a German family of wealth and respectability, whose child of three summers was dangerously ill with Dysentery; he called one day after the crisis had passed, the appe-

tite returned, and the child was considered out of danger. The mother held it on her lap and was feeding it bread and butter, roast corn and cheese. The Doctor remonstrated at the gross violation of his orders and upbraided the mother for such a violent and imprudent act, to which the father replied, "we be the nurse and you be the doctor."

It would seem with an intelligent people that the love of life and health would stand paramount to every other object of effort. Physical Science and Material Progress have the precedence, and it is not probable that a change will be effected as long as humanity responds to their incentives with so little consideration or forecast upon the momentous subject of the preservation of health and the prolongation of life. It is well understood by all that beasts of prey are lurking all along the journey of life, with mouths festering with pestilential poison, and some one will sooner or later accomplish the fatal work, without consulting man's interests in his schemes or material work, which have so hazardously led him on

to death before his allotted time. When men are attacked by any of these beasts of prey, they too often send for the doctor with as little regard to his success in driving away the beasts, or his merit to his title of physician, as they lived careless to the laws that govern life.

If thousands of dollars would be freely paid for the prolongation of life one hour, when disease is offering the last fatal symptom, why not in health, bestow upon this momentous subject the better judgment and consideration? It is true there are inviting signs and placards at every corner of the street, of boasting skill or modest worth, efficient and inefficient. The crowning argument of the puerile and inefficient is, "it will do you no hurt, if it does you no good." The inconsiderate and foolish are taken with the argument, and are often caused to regret their sin of omission. He who offers himself to the people as their best and dearest friend in the hour of their struggle with disease, should be armed with the best possible means of the profession, to stay the vampire and let the victim go free. Old

Dr. Fogy, who had practiced medicine all his life in the bonds of infidelity, and in his dotage, said that "medicine killed more than it cured," is often quoted by persons in health with an air of belief which they seldom adhere to in sickness. Let consistency have as important a place in health pursuits as in financial avocations, and less sickness, and more happiness, will greet mankind.

MEDICAL AND ELECTRICAL INSTITUTE,
ESTABLISHED 1862, FOR THE TREATMENT AND CURE OF
CHRONIC DISEASES,
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The Medical and Electrical Departments are very elaborate and complete. The Electro-Thermal Bath we AVER to be superior to any yet invented, as to facility in changing and directing the currents, and is one of the most efficacious Baths in use. And we are also confident that its power in arresting Colds and removing local congestion is not surpassed by any other bath.

No one remedy is used to the exclusion of all others. The system of practice is to meet the exigency of the case with an appropriate remedy which science and experience have furnished for the suffering patient.

Prominent among the diseases treated are: **Nervous Diseases, Palsy, Neuralgia, Rheumatism, Scrofula, and General Debility, Diseases of the Lungs and Heart, Catarrh and Bronchitis, Liver, Spleen, and Kidneys, and**

DISEASES OF WOMEN AND CHILDREN.

The majority of our patients are those whose diseases are of long standing, and have been treated by other physicians without success, and come to our Institute of their own free will, or through the advice of their physician, who was acquainted with the current literature and improvements of the profession.

The time has come which makes it imprudent to brand every educated specialist that does not use one remedy, or a certain class of remedies, to the exclusion of all others, with "Humbug," or "Quack." We quote AUSTIN FLINT, M. D., *Professor of the Principles and Practice of Medicine in the*

Bellevue Hospital Medical College, and in the Long Island College Hospital; Fellow of the New York Academy of Medicine; Author of the "Principles and Practice of Medicine," etc., as authority quite sufficient on this point:

"The division of medicine into the three departments which have been named is natural, and has contributed to the knowledge acquired in each department. Subdivisions have also been found convenient and useful. The latter are commonly known as specialties, and they who devote themselves to particular subdivisions are called specialists. The institution of specialties is a natural result of an accumulation of knowledge sufficient to render it difficult or impossible for one mind to compass all that has been ascertained in either of the three departments of Medicine. Doubtless the number of specialties will be increased as our knowledge continues to accumulate. The special cultivation of the several subdivisions of medicine leads to a greater development of knowledge relating to each subdivision, and, hence, conduces to the progress of medicine."

JUSTIN HAYES, M.D.,

RESIDENT PHYSICIAN.

NOTICES OF THE PRESS.

[*From the Chicago Tribune.*]

ELECTRICITY AS A CURATIVE AGENT.

The batteries employed are of the most complete character, and some of them probably the largest and most powerful in the United States. It is by means of these powerful agencies that a quantity current can be applied to the patient; not a succession of shocks and thumps here, there and everywhere at random, but a strong equalizing and steady flow of the fluid. We have personally visited Dr. Hayes' establishment, and can speak with still more confidence of the success of electricity as a curative agent in the hands of the Doctor, from the fact that many of our friends and acquaintances have placed themselves under his treatment, and received material benefit thereby. The Doctor is a thoroughly educated physician of the old school, and we have no hesitation in endorsing him and recommending him to the sick and suffering everywhere.

[From Hon. O. P. Brown, Ohio, in a letter to the *Cleveland Herald*.]

"In speaking of Dr. Hayes, I may say, that, with his thorough medical education in the regular schools—his long experience as a successful practitioner, and the means he commands for curing chronic diseases, no one, however, severely or long afflicted, availing themselves of his aid, need despair of relief or a permanent cure. His electrical battery and apparatus is the most perfect and powerful in use in this country. The electrical baths are wonderful in their healing powers. To these facts his hundreds of restored patients, in every walk of life and in all parts of the country will bear me evidence. Dr. Hayes was formerly from Cleveland, and his numerous friends from Northern Ohio will be glad to hear of his prosperity and usefulness.

[Extract from a special correspondence of the *Cleveland Leader*, Chicago, July 30, 1866.]

It becomes us to make the candid and unqualified confession that Cleveland has given us a physician who ranks among the very foremost. * * * He gives himself wholly to his proper work and his rooms are always thronged with those whom the cured have sent to be cured. I have heard from the eager lips of a score of friends, almost literally renovated at his hands, stories such as one may indeed read in various advertising columns, but such as it is rare to hear from a patient's own mouth.

Chicago to Cleveland, greeting: Thank you for Dr. Justin Hayes! But do not think to get him back. He is here to stay.

[From the *Chicago Times*, 1865.]

Dr. Hayes is a member of the regular profession, and has been in practice for seventeen years. He stands high with the medical faculty in this city as a thorough, experienced and successful practitioner. The new system of treatment by the powerful agent of electricity, which is rapidly gaining confidence everywhere, has been the subject of deep and patient investigation by Dr. Hayes for many years, and the success which has invariably attended his practice, has been attested by many of the most prominent men of this city, as well as throughout the adjoining states. He has labored diligently, and in the most unostentatious manner, in perfecting this admirable method, never taken any care to blazon himself to the world, or shouting "Eureka," as the empirics of the profession are so fond of doing, but laboring earnestly to find out what he conscientiously believes to be a truth. Apart from the invigorating influence of the electro-thermal bath, and the relief it is calculated to afford to sufferers, the pleasurable sen-

sations experienced in the process might in itself be an inducement. The patient is placed in a bath, fitted up much in the ordinary way, and filled with water of a temperature which is varied according to the nature of the case. By the side of the basin stands the electric apparatus, which connects by means of wires with the water. By turning certain keys in this instrument, the electric current can be directed to any part of the body, or made to permeate the whole system equally. One seems to feel a new life running through him, a creeping, tingling sensation being felt from head to foot, which is particularly agreeable. If there is any weak spot in the body, an application of the sponge, which also connects with the wires, seems to strengthen and restore it. The patient rises from the bath refreshed and purified, and, if previously exhausted and fatigued with mental or physical exertion, he will emerge from it as much refreshed as from a night's rest.

The apparatus now in preparation for the new building is on a much larger scale than that now in use, and, together with all the other appliances for the preservation of health adopted by Dr. Hayes, the institution will become one of the most popular resorts in the west for all who stand in need of the healing art.

[From the *Chicago Evening Journal*.]

DR. HAYES' INSTITUTE.

It is with unfeigned pleasure that we direct the attention of the public to Dr. Hayes' Medical and Electrical Institute now located in Crosby's new building, Nos. 84 and 86 State Street.

* * * * *

An experience of eighteen years in the regular practice of medicine has given Doctor Hayes a knowledge of disease, its causes and the best means of cure, such as comparatively few physicians possess. The new and elaborate electrical apparatus and electro-thermal baths used by Dr. Hayes, in connection with others of the best remedies of the profession, are unquestionably among the most potent agencies that can be applied to the cure of chronic diseases. The Doctor's electrical rooms are the most complete of any in the West; there are two distinct departments, one for the ladies and the other for gentlemen, each being furnished with intelligent and efficient assistants. The therapeutic power of the electro-thermal baths has been clearly demonstrated in thousands of cases, and is daily becoming more apparent to all who use them or witness their effects upon others. From personal knowledge, we regard Dr. Hayes' Institute as a public blessing.

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CHICAGO, ILL., April 3d, 1866.

MR. E. H. SARGENT:

Dear Sir—Your communication requesting my professional opinion of the value of Chloride of Zinc, as a deodorizer, etc., is received. I reply that there is abundant scientific authority—with which my own experience accords—to prove, beyond doubt, the immense value of this agent as a deodorizer, and, in a high degree, as a disinfectant. While it is equally as prompt and efficient as Chloride of Lime—the best known and the longest used of the deodorizers—it has over it the great advantage that it has no offensive odor of its own, when neutral, and may be freely used about the persons and clothing of the most sensitive persons without exciting any feeling of disgust. It has a great advantage over the preparations of Iron and Manganese, which are used for similar purposes, for use within doors, that, when PURE and NEUTRAL, it may be freely sprinkled upon the person's clothing and bed-clothing of the sick, without injury or stain, provided only, that they be first well soaked and washed with pure water, before using soap or an alkali for their cleansing.

It may be freely used for mopping and cleansing the floors of sick rooms and the wards of hospitals, with the effect to remove all odors, and rather to preserve than injure the durability of the wood. Clothes moistened with the solution, suspended in a sick room, will promptly remove all unpleasant odors, emanating from the excretions of the patient, and materially contribute to the comfort, and diminish the probability of infection of nurses and friends. As a deodorizer, for use in closed apartments, and within dwellings for general family use, I am of the opinion that the Chloride of Zinc is the most SAFE, the most PROMPT, and the most EFFICIENT of the deodorizers now furnished for general distribution.

Very Respectfully, etc.,

JAS. V. Z. BLANEY,

Prof. of Chemistry Rush Medical College, Analytical and
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Prepared by E. H. SARGENT, Chemist and Druggist,
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